

AIRPORT TRAFFIC CONTROL TOWER

ISLA GRANDE AIRPORT
SAN JUAN, PUERTO RICO

EXTERIOR WALL AND ROOF COATING



SPECIFICATIONS

Federal Aviation Administration
EASTERN SERVICE AREA

Engineering Service, AJW-E15D

MAY 09 2011

SECTION 01016
CONDITIONS AFFECTING WORK

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

Hours of operation, impact on existing facility, impact on airport operations.

1.2 WORK SCHEDULE

Normal working hours are 0700 to 1600, Monday through Friday (except U.S. holidays). Contractor requests to work outside normal working hours, including blanket requests, are often approved. However, the COR has full discretion to approve or disapprove, or withdraw approval of, requests. If the contractor desires to work outside normal hours (including Saturdays, Sundays, and holidays), he shall submit his request to the COR at least 48 hours in advance. Some typical constraints on working outside normal working hours are:

- A. The Contractor's request must be made at least two days in advance. Prior to submitting the request, the Contractor must coordinate as needed and have all required people and materials for the work that will be performed.
- B. The Contractor shall schedule his work to cause the least amount of interference to normal activities.

1.4 PRE-INSTALLATION BRIEFING TO CONTROLLERS

- A. Schedule contractor's briefing to controllers prior to installation of odor producing work or visual obstruction work adjacent that may affect controllers in the Cab. The purpose of this briefing is to inform controllers in advance what they can expect and obtain their support.
- B. During the construction, the Airport Traffic Manager through the Resident Engineer has right to stop contractor's work anytime if construction work affects air control activities in the Cab. If that happens, the contractor shall rearrange their work schedule acceptable to AT Manager and repeat this briefing if requested

The Contractor shall establish the place, date, and time of these briefings acceptable to RE and controllers. The following parties shall attend these conferences, as applicable:

- 1. The Contractor.
- 2. The Contractor's Coordinating Engineer.
- 3. The Subcontractor executing the work.
- 4. Manufacturer's representatives.
- 5. SIG Air Traffic and Airway Facilities personnel

-- End of Section --

SECTION 01040
PROJECT COORDINATION

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDE

Coordinate, supervise, and administer the Project as necessary for an orderly and efficient completion of the work.

1.2 CONTRACTOR'S DUTIES

- A. Establish on site lines of authority and communications.
- B. Coordinate construction, operation, and activities included under various sections of the Specifications to assure efficient and orderly installation of each part of the Work.
- C. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, attendance at meetings, etc.
- D. Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the Work. Such administrative activities include, but are not necessarily limited to, the following:
 - 1. Preparation of schedules.
 - 2. Installation and removal of temporary facilities.
 - 3. Delivery and processing of submittals.
 - 4. Progress meetings.
 - 5. Project Closeout activities.

1.3 INTERFACE AND PROJECT COORDINATION

- A. Interface and coordinate work priority as follows:
 - 1. Contractor and subcontractors shall cooperate to fit their work into the structure as project conditions may demand. When conflicts to right-of-way arise, such as during installation of piping, ductwork, lighting fixtures, etc., the FAA Resident Engineer shall make the final decision.
 - 2. Work installed without regard for other work shall be removed, if necessary, as determined by the FAA Resident Engineer and at the installing contractor's expense.

B. Coordination with other trades:

1. Examine other divisions of the Contract Documents for related work.
2. Examine the Contract Documents to determine the materials and equipment, which shall be provided under other Divisions of the Specifications.
3. Cooperate to provide continuity and progress of the work. Furnish to other Divisions information required for the execution of the Work.
4. Furnish other Divisions advance information on locations and sizes of frames, boxes, sleeves, and openings needed for the work, and also furnish information and shop drawings necessary to permit trades affected to install their work properly and without delay.
5. Where there is evidence that work of a Specifications Division shall interfere with the work of another Division, all Divisions shall be required to assist in working out space conditions to make satisfactory adjustments and shall be prepared to submit and revise coordinated shop drawings.

--End of Section--

**SECTION 07120
ELASTOMERIC COATING**

PART 1 - GENERAL

1.1 DESCRIPTION

This section specifies a surface applied elastomeric wall coating.

1.2 RELATED WORK

- A. Elastomeric Deck Coating: Section 07570.

1.3 TEST AREA

- A. Before start of general application, apply the elastomeric coating as specified in a representative test area. The area shall be approximately 100 square feet. The area to be covered by the coating shall include all site conditions such as corners and projections through the coating. Location of test area shall be determined by the Resident Engineer, and after approval, shall serve as an example for the remaining work.

1.4 SUBMITTALS

- A. Comply with Submittals in Division 1 – Submittal Procedures.

- B. Manufacturers Literature and Data: Each material, indicating compliance with specification requirements.
- C. Samples: Each finish color on 4 by 8 inch substrate, layered to show each coat and finish.

1.5 GUARANTY

- A. Guarantee surfaces, where elastomeric coating has been applied, against leaks and other failures, over and above normal wear and failure of substrate, subject to the terms of the "Guaranty" Article in Section 01740, GENERAL CONDITIONS; except that the guarantee period is ten (10) years.
- D. Application contractor must be a member of product manufacturer approved contractor list for ten (10) yeas guaranty:

1.6 DELIVERY AND STORAGE

- A. Deliver materials to the site in original sealed containers, clearly marked with manufacturer's name and brand, and type of material.
- B. Store materials in weathertight and dry storage facility. Protect from damage from handling, weather and construction operations before, during and after installation. Store materials at temperatures and under conditions recommended by the manufacturer.

1.7 ENVIRONMENTAL REQUIREMENTS

Do not proceed with application of materials when ambient temperature is less or greater than that recommended by the coating material manufacturer.

1.8 SAFETY REQUIREMENTS

Keep products away from heat, sparks and flame. Do not permit use of spark-producing equipment during application of flammable products or where explosive fumes are present.

1.9 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by basic designation only.
- B. American Society for Testing and Materials (ASTM):
 - C794-01 Adhesion-in-Peel of Elastomeric Joint Sealants
 - E96-00 Water Vapor Transmission of Materials

PART 2 - PRODUCTS

- 2.1 Elastomeric wall coating shall be **Truco Acrylic Elastomeric Coating – 8101** or meeting the following characteristics:

PERFORMANCE REQUIREMENTS OF CURED FILM		
PHYSICAL PROPERTIES	TEST METHOD	BASE COAT
Density, lbs/gallon	WPSTM P-14	12.4
Elongation to break, %	WPSTM C-19	300

Solid Content, % by volume	WPSTM C-19	50
Tack Free Time, hours	WPSTM E-86	3.5
Skin Over Time, minutes		90
Viscosity, centipoise	WPSTM C-560	110-120KU
Volatile Organic Content, g/L	EPA Meth.24	minimal
Tensile Strength, psi	ASTM C-412	250

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

- A. Surfaces to be coated shall be clean and dry, free of loose materials, dirt, dust, rust, oil, frost, and other contaminants. Smooth rough spots and tool marks.
- B. Fill holes, depressions and cracks with fillers compatible with the coating material and recommended by the coating manufacturer.
- C. Subsurface imperfections that telegraph through the finish coating surface will not be accepted.
- D. Vacuum to remove all loose particles and dust. Solvents shall not be used on concrete. Concrete must be free of release agents, or other adhesion inhibiting contaminants.
- E. All cracks greater than hairline width, approximately 1/ 16 inch, must be ground out and patched with an appropriate masonry patching compound. Structural cracks of any thickness must be repaired and stabilized to prevent movement.
- F. The product manufacture representative should be on hand to witness the adhesion testing. All surface preparation and application procedures intended for use on the project should be tested in the mockup under observation of the product manufacture representative.

3.2 WORK COORDINATION

To provide a watertight installation, coordinate this work with flashing and drains required to be installed before the coating work begins and be completed after the coating is in place.

3.3 APPLICATION

- A. Prime all surfaces to receive elastomeric materials as recommended by the product manufacturer.
- B. Where horizontal surfaces intersect vertical surfaces provide a sealant type fillet as recommended by the manufacturers.
- C. Application of elastomeric coating can be achieved with rollers, brushes or power sprayers. Dilution of the coating is not allowed. The coating should be stirred prior to use

- and occasionally during application. Rollers should be solvent resistant and have a heavy nap (approximately ½ inch) in order to achieve the recommended coverage.
- D. The coating shall be applied in accordance with the manufactures suggested recommendations required to validate warranty.
 - E. Re-coat as recommended by manufacturer.
 - F. Start and stop the coating application only at distinct delineations of the façade (i.e, building joints, sills, parapets, corners, etc....).
 - G. Rolling patterns can have an effect on final appearance. Use a consistent stroke and pattern between workers for the duration of the project. Keep the roller fully loaded at all times and always maintain a wet edge throughout one area of application.
 - H. The direction of the final pass with a roller should be consistent. A back roll is recommended.
 - I. Different roller types/knap will likely produce differing results Rollers with ½ knap are recommended for vertical walls. Do not use lesser-quality rollers and rolling equipment that will contribute a factor in an uneven finish appearance.
 - J. Successive thin coats may produce a more uniform final appearance than fewer thicker coats.
 - K. Full curing will usually take 7-10 days and can be verified by absence of solvent odor.
 - L. Adhesion can be verified following full cure by cutting a small X in the coating down to the substrate. Starting at the crossover point of the X lift an edge of the coating with a sharp blade until it can be held with finger tips. It should not be possible to peel the coating from the surface. Good adhesion will be evidenced by breaking of the coating film.
 - M. Coating thickness may be verified by measuring the thickness of the cured coating piece with a micrometer.

3.4 CLEANING

Remove smears of elastomeric material from other work.

3.5 PROTECTION

- A. All surfaces not intended for coating shall be protected by drop cloths or masking.
- B. Misapplied, uncured, or partially cured coating on non-porous surfaces shall be removed by wiping with dry cloths or cloths wet with mineral spirits followed by dry cloths. Cured coating may be removed from nonporous surfaces such as glass or metal by razor scraping. Removal from porous surfaces such as stone, concrete or wood should be attempted as described above for nonporous surfaces. It may be necessary to abrade, sandblast or sand the cleaned porous surface to remove all traces of stain. Plants and animal life should be removed from exposure or provided with positive protection from overspray or misapplication of coating.

- C. Removal of misapplied coatings is the responsibility of the applicator.
- D. After the coating is applied, the contractor shall remove all masking and other protection and clean up any remaining defacement caused by this work.

3.6 Handling and Safety-This product is solvent based product that requires proper safety precautions.

3.7 Samples -The contractor shall submit to RE for approval, samples of the coating which are to be used and upon request, shall submit certification that the coating used on the job is of the same quality and meet the same standards as the submitted samples. He shall also submit literature which is current at the time of installation of the coating provided by the product manufacture for each coating used.

--End of Section--

SECTION 01740 WARRANTIES AND GUARANTEES

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Preparation and submittal of warranties and guarantees.
- B. Schedule of submittals.

1.2 FORM OF SUBMITTALS

- A. Bind in commercial quality 8 ½ x 11 inch three-ring side binders, with hardback, cleanable, plastic covers.
- B. Label cover of each binder with typed or printed title 'WARRANTIES AND GUARANTEES', with Contract No. and Project Title; name, address and telephone number of Contractor.
- C. Separate each warranty or guaranty with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheet as necessary. List subcontractor, supplier and manufacturer, with name, address and telephone number of responsible principal.

1.3 PREPARATION OF SUBMITTALS

- A. Obtain warranties and guarantees, executed in duplicate by responsible subcontractors, suppliers and manufacturers, within ten (10) days after completion of the applicable item of work. Date of beginning of time of warranty will be the date of the substantial completion, or date of Beneficial Occupancy if equipment is put to use by the FAA at date of Beneficial Occupancy.

- B. Co-execute submittals when required.
- C. Retain warranties and guarantees until time specified for submittal.
- D. Warranties and guarantees shall be made out in the name of, and accrue to the benefit of the Federal Aviation Administration.

1.4 TIME OF SUBMITTALS

- A. Make submittals prior to final acceptance.
- B. For items of work when acceptance is delayed beyond date of Substantial Completion, submit within ten (10) days after acceptance, listing the date of acceptance as the beginning of the warranty or guaranty period.

1.5 POSTED WARRANTY INFORMATION

Submit data concerning the standard warranty, including the warranty period (dates), and warranty contacts with names, addresses and telephone numbers. Post data under glass for each item at a location as directed by the COR.

1.7 QUANTITY

Provide three (3) complete copies of warranties and guarantees.

--End of Section--

SECTION 07570 ELASTOMERIC ROOF COATING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section specifies a liquid applied elastomeric coating for the SIG ATCT roof deck.
- B. Provide labor, materials, equipment and supervision necessary to install a roof coating system as outlined in this specification, as well as, instructions from system manufacturer to existing roof surfaces.
- C. The manufacturers' application instructions for each product used are considered part of this specification and should be followed at all times.

1.2 RELATED WORK

- A. Elastomeric Wall Coating: Section 07120

1.3 SYSTEM DESCRIPTION

- A. Deck coating shall be a complete system of compatible materials existing deck to create a seamless waterproof membrane.
- B. System shall be compatible with Wall Coating system.

1.4 SUBMITTALS

- A. Comply with Submittals in Division 1 - Submittal Procedures.
- B. Product Data: Submit product literature and installation instructions.
- C. Project Reference List: Submit list of projects as required by this specification.
- D. Samples: Submit samples of specified deck coating system. Samples shall be construed as examples of finished color and texture of the system.
- E. Applicator Approval: Submit letter from manufacturer stating applicator is approved to install the deck coating system.

1.5 QUALITY ASSURANCE AND GUARANTY

- A. Applicator Qualifications: Applicators shall be approved to install specified system by the product manufacturer.
- B. Requirements of Regulatory Agencies:
 - 1. The deck coating system shall be rated Class "A" by Underwriters Laboratories (ASTM E108/UL 790). Containers to bear Underwriters Laboratories labels.
 - 2. Materials used in the deck coating system shall meet Federal, State and local VOC regulations.
- C. Warranty: Submit copy of manufacturer's standard warranty to cover a period of Five (5) years.
- D. Application contractor must be a member of product manufacturer approved contractor list for five (5) years guaranty

1.6 DELIVERY AND STORAGE AND HANDLING

- A. Deliver materials to the site in original sealed containers, clearly marked with manufacturer's name and brand, and type of material.
- B. Store materials in weathertight and dry storage facility. Protect from damage from handling, weather and construction operations before, during and after installation. Recommended material storage temperature is 75°F. Handle products to avoid damage to container. Do not store for long periods in direct sunlight.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Do not proceed with application of materials when deck temperature is less than 40°F.
- B. Do not apply materials unless surface to receive coating is clean and dry, or if precipitation is imminent.

1.8 SAFETY REQUIREMENTS

A. Safety and Health Conditions:

1. During coating application, it is **essential** that maximum effort is made to protect the coating mechanic and others near the workplace from breathing vapors and coming in contact of material with skin or eyes.
2. In confined areas, the best form of protection against organic solvents or other potentially sensitizing vapors is a **fresh air supply**. For maximum protection, it is recommended to use NIOSH/MSHA-approved, self-contained breathing apparatus with a full-face piece operated in a positive pressure mode.
3. In unrestricted (open outdoor) areas, it is recommended to wear a suitable mask or respirator of a type approved by NIOSH/MSHA.
4. To prevent excessive skin contact with the material, it is recommended to wear fabric coveralls and neoprene or other resistant gloves. To prevent eye contact, wear a full-face mask or OSHA-approved protective goggles.

B. Protection:

1. Keep products away from heat, sparks, and flames. Do not allow use of spark producing equipment during application and until vapors are gone. Post "No Smoking" signs.
2. The overspray and/or solvents from coatings can carry considerable distances and care should be taken to do the following:
 - a. Post warning signs a minimum of 100 feet from the work area.
 - b. **Mask off or cover all air intakes near the work area to prevent odors from entering occupied areas of the building or structure.**
 - c. Set up wind breaks when needed.
 - d. Minimize or exclude all personnel not directly involved with the coating application.
 - e. Have CO2 or other dry chemical fire extinguishers available at the job site.
 - f. Provide adequate ventilation.
3. After completion of application, do not allow traffic on coated surfaces for a period of at least 48 hours at 75°F and 50% R.H., or until completely cured.
4. Protect plants, vegetation and animals, which might be affected by coating. Use drop cloths or masking as required.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Deck Coating Material:

1. Primer: Primer shall be Truco Inc. Eterna-Seal Asphalt Primer #6001 or approve equivalent.
2. Elastomeric Base Coat: Truco Inc. Eterna-Seal Off White Base Coat #7143 series polyurethane coating, gray in color. Or approved equal.

- 3.Elastomeric Topcoat: Truco Inc. Eterna-Seal SEBS Rubber Coating #7145 series polyurethane coating, White in color. Or approved equivalent.

2.2 MATERIAL PERFORMANCE CRITERIA

Deck coating product shall be Truco Inc. Eterna-Seal or meet or exceed characteristics.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Damaged areas of the deck must be restored to match adjacent areas.
- B. Contractor/manufacture shall perform adhesion and compatibility test on the existing coating prior to new membrane system is applied.

3.2 SURFACE PREPARATION

- A. Cleaning: Surfaces contaminated with oil or grease shall be vigorously scrubbed with a power broom and a strong non-sudsing detergent. Thoroughly wash, clean, and dry. Areas where oil or other contaminants penetrate deep into the surface may require removal by mechanical methods.
- B. Mechanically prepare surface blasting to industry standard surface texture (ICRI's CSP3-4) without causing additional surface defects in deck surface. Proper cleaning procedures should be followed to insure proper bonding of the deck coating. Treat concrete surfaces with 10% to 15% solution of muriatic acid to remove laitance and impurities. After acid has stopped foaming or boiling, immediately rinse thoroughly with water. Re-rinse as required to remove muriatic acid solution. Acid etching does not remove deep penetrating oils, grease, tar or asphalt stains. Proper cleaning procedures should be followed to insure proper bonding of the deck coating.
- C. Cracks and Cold Joints: Visible hairline cracks (up to 1/16" in width) in concrete and cold joints shall be cleaned, primed as required and treated with liquid flashing a minimum distance of 2" on each side of crack to yield a total thickness of 30 dry mils. Large cracks (over 1/16" in width) in concrete shall be routed and sealed with sealant. Sealant shall be applied to inside area of crack only, not applied to deck surface. Detail sealed cracks with liquid flashing a distance of 2" on each side of crack to yield a total thickness of 30 dry mils. All joints between plywood sheets shall be filled flush with sealant and detailed with liquid flashing a distance of 2" on each side of joint to yield a total thickness of 30 dry mils.
- D. Control Joints: Seal secondary control joints with sealant. Sealant shall be applied to inside area of joint only, not applied to deck surface. Detail sealed joints with liquid flashing a distance of 2" on each side of joint to yield a total thickness of 30 dry mils.
- E. Sheet Flashing: Install sheet flashing where required prior to the application of base coat.
- F. Surface Condition: Surface shall be clean and dry prior to coating.

3.3 WORK COORDINATION

To provide a watertight installation, coordinate this work with flashing and drains required to be installed before the coating work begins and be completed after the coating is in place.

3.4 APPLICATION

- A. Primer: Where required, apply 1/3 gallon per 100 square feet (300 sf/gl) to all surfaces in strict accordance with procedures outlined by manufacturer. Within 24 hours of application of primer, base coat must be applied. If base coat cannot be applied within 24 hours, re-prime. Or as recommended by manufacturer.
- B. Base Coat: Apply 1-1/2 gallons per 100 square feet (66 sf/gl) of elastomeric base coat to deck surfaces to yield an average 18 dry mils in strict accordance with procedures outlined by manufacture. Extend base coat over cracks and control joints which have received treatment. Or as recommended by manufacturer.
- C. Wearing Surface Coat: Apply 1/2 gallon per 100 square feet (200 sf/gl) of elastomeric topcoat to yield an average of 6 dry mils and immediately broadcast aggregate, evenly distributed, into wet coating at the rate of 10 pounds per 100 square feet. When dry, remove excess aggregate and re-coat surface with 2/3 gallon per 100 square feet (150 sf/gl) of elastomeric topcoat to yield an average of 8 dry mils. Total system coating thickness averages 32 dry mils exclusive of aggregate. Or as recommended by manufacturer.

3.5 CLEANING

- A. Remove debris resulting from completion of coating operation from the project site.

3.6 PROTECTION

- A. All surfaces not intended for coating shall be protected by drop cloths or masking.
- B. After the coating is applied, the contractor shall remove all masking and other protection and clean up any remaining defacement caused by this work.

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